IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

21. (Currently amended) An assay system for analyzing a biological liquid sample, comprising:

a waveguide configured to generate an evanescent field over at least one planar surface thereof as light is directed therein, said at least one planar surface having capture molecules for at least one indicator of coronary artery disease associated therewith;

a light source positioned to direct light into said waveguide;

fluorescently labeled tracer molecules that indicate binding of the at least one indicator of coronary artery disease with a capture molecule;

a light detector for detecting fluorescent light passed through said planar surface and an opposite surface of said waveguide and emitted ~~as~~ when said fluorescently labeled tracer molecules ~~that indicate binding of the at least one indicator of coronary artery disease with a capture molecule~~ are excited by the evanescent field, said light detector generating an intensity signal indicating an intensity of said detected light; and

a controller for monitoring said intensity signal and correlating said intensity signal to a concentration of said at least one indicator of coronary artery disease in the liquid biological sample.

22. (Original) The assay system of claim 21, wherein said waveguide is optically associated with a rear lens oriented for reading light from said light source passing through said waveguide, to monitor coupling efficiency and beam quality.

23. (Original) The assay system of claim 21, wherein said capture molecules include capture molecules that bind with at least a portion of least one of a troponin, creatine kinase, or myoglobin molecule or complex.

24. (Previously presented) The assay system of claim 46, wherein said at least one reaction area comprises a reservoir.

25. (Previously presented) The assay system of claim 46, wherein said at least one reaction area comprises a well.

26. (Previously presented) The assay system of claim 21, wherein said controller is configured to effect said correlating in a substantially continuous fashion.

27. (Previously presented) The assay system of claim 26, wherein said controller is configured to effect said monitoring and said correlating until a reliable determination is made of whether said at least one indicator of coronary artery disease is present in an amount indicative of coronary artery disease.

28. (Previously presented) The assay system of claim 27, wherein said controller is configured to output a signal that effects reporting of said reliable determination.

29. (Previously presented) The assay system of claim 21, wherein said controller is configured to effect said monitoring and said correlating until a reliable determination is made of whether said at least one indicator of coronary artery disease is present in an amount indicative of coronary artery disease.

30. (Previously presented) The assay system of claim 29, wherein said controller is configured to output a signal that effects reporting of said reliable determination.

31. (Currently amended) The assay system of claim 21, <u>comprising a plurality of distinct types of fluorescently labeled tracer molecules, each corresponding to at least one</u>

indicator of coronary artery disease, wherein said controller is configured to substantially simultaneously determine concentrations of a plurality of indicators of coronary artery disease.

32. (Previously presented) The assay system of claim 21, wherein said capture molecules comprise capture molecules that bind with at least a portion of at least one ischemic marker or at least one complex that includes at least one ischemic marker.

33. (Previously presented) The assay system of claim 21, wherein said capture molecules comprise capture molecules that bind with at least a portion of at least one marker released from cardiac tissue only after a myocardial infarction or at least one complex that includes marker released from cardiac tissue only after a myocardial infarction.

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45. (Previously presented) The assay system of claim 21, wherein the at least one planar surface of the waveguide comprises optical plastic.

46. (Previously presented) The assay system of claim 21, further comprising:

a first member associated in liquid tight attachment with said at least one planar surface of said waveguide, wherein said first member, in conjunction with said waveguide, defines at least one reaction area for containing the biological liquid sample while said at least one planar surface of said waveguide defines a floor or ceiling of said at least one reaction area.